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09/618,530	07/18/2000	Loa Andersson	2204/A21	8680

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EXAMINER	
DUONG, FRANK	

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 07/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/618,530	ANDERSSON ET AL.	
	Examiner	Art Unit	
	Frank Duong	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 May 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-24 and 26-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-7,9,10,12,13,15,17-18, 20,22,24,27,30-32,34,36-39,41,43-47 and 49* is/are rejected.

7)☒ Claim(s) *3,8,11,14,16,19,21,23,26,28,29,33,35,40,42 and 48* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is a response to communications dated 05/23/05. Claims 1, 3-24 and 26-49 are pending in the application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4-7, 9,10,12,13,15,17-18, 20,22,24,27,30-32,34,36-39,41,43-47 and 49 are rejected under 35 U.S.C. 102(e) as being anticipated by Chuah et al (USP 6,408,001) (hereinafter "Chuah").

Regarding **claim 1**, in accordance with Chuah reference entirety, Chuah discloses a method for establishing a label switched path by a first label switching device (Fig. 5; LSR4) to a second, downstream label switching device (Fig. 5; LSR7 or LSR1) in a communication network (Fig. 5 and col. 6, line 27 to col. 7, line 24) without using an explicit signaling protocol (*note: at col. 6, lines 43-61, Chuah discloses LSR4 appends MPLS label 1 352 to create labeled IP packet 530 in response to a reception of packet 520 from ITS-4. No explicit signaling protocol involved)*, the method comprising:

allocating a new label (532) for the label switched path (*FIG. 5 and col. 6, lines 50-51*);

generating a labeled packet (530) including the new label (*532*), including inserting the new label (532) into the packet (*520*) and setting an indicator (*Fig. 6; 630*) in the packet to indicate that the packet is labeled (*Fig. 5 and col. 7, lines 15-24, Chuah discloses S bit 630 in label stack is set to indicate that it is the last label stack entry (corresponding to "packet is labeled")*); and

forwarding the labeled packet (530) to the second label switching device (*LSR7*) (*Fig. 5 and col. 6, lines 51-54*).

Regarding **claim 4**, in addition to features recited in base claim 1 (see rationales discussed above), Chuah further discloses wherein the indicator (630) is a bit in a header field of the packet, and wherein setting the indicator in the packet to indicate that the packet is labeled comprising setting the bit to a predetermined value (1 or 0) (*col. 7, lines 14-24*).

Regarding **claim 5**, in addition to features recited in base claim 1 (see rationales discussed above), Chuah further discloses adding a forwarding table entry to a forwarding table (*col. 10, lines 25-40 and lines 58-63; table associated with packet flow from LSR4 and LSR5 at LSR7*), the forwarding table entry mapping the new label (Outgoing Label 7) to a forwarding equivalence class (DIP) and outgoing interface for the label switched path (*inherent in MPLS network or see col. 10, lines 31-63 wherein table in LSR7 is established*).

Regarding **claim 6**, in addition to features recited in base claim 5 (see rationales discussed above), Chuah further discloses wherein the forwarding table is associated with the outgoing interface for the label switched path (*inherent in MPLS network or see col. 10, lines 31-63 wherein table in LSR7 is established*).

Regarding **claim 7**, in addition to features recited in base claim 1 (see rationales discussed above), Chuah further discloses terminating use of the label switched path (*col. 11, lines 45-47*); and forwarding unlabeled packets to the second label switching device (*ITS-1) (col. 11, lines 47-48).*

Regarding **claim 9**, in accordance with Chuah reference entirety, Chuah discloses a label switching device (Fig. 5; LSR4, LSR7 or LSR1) comprising:

an outgoing interface providing an interface for communicating with a second label switching device (*FIG. 5; LSR7*) (*Fig. 5; interface between LSR4 and LSR7*); and

packet processing logic (LSR4) operably coupled to allocated a new label (530) for a new label switched path to the second label switching device (LSR7) (*Fig. 5 and col. 7, lines 15-24, Chuah discloses S bit 630 in label stack is set to indicate that it is the last label stack entry (corresponding to "packet is labeled")*) and to forward a labeled packet including the new label and an indicator indicating that the labeled packet is labeled (*Fig. 5 and col. 6, lines 51-54*) without first explicitly establishing the new label switched path to the second label switching device using a signaling protocol (*note: at col. 6, lines 43-61, Chuah discloses LSR4 appends MPLS label 1 352 to create labeled IP packet 530 in response to a reception of packet 520 from ITS-4. No explicit signaling protocol involved establishing an LSP).*

Regarding **claim 10**, in addition to features recited in base claim 10 (see rationales discussed above), Chuah further discloses wherein the packet processing logic (*LSR4 and col. 6, line 43 to col. 7, line 24*) comprises: label switching logic (LSR4) operably coupled to decide to established the new label switched path (*col. 6, lines 50-54*); label allocation logic (LSR4) operably coupled to allocate (append) the new label (532) for the new label switched path (*col. 6, lines 50-54*); and packet labeling logic (LSR4) operably coupled to inserted new label in the packet and set an indicator (630) in the packet to indicate that the packet is labeled (*col. 7, lines 14-24*).

Regarding **claim 12**, in addition to features recited in base claim 10 (see rationales discussed above), Chuah further discloses wherein the indicator is a bit (630) in a header field of the packet, and wherein the packet labeling logic is operably coupled to set the bit to a predetermined value (1 or 0) to indicate that the packet is labeled (*col. 7, lines 14-24*).

Regarding **claim 13**, in addition to features recited in base claim 9 (see rationales discussed above), Chuah further discloses a forwarding table associated with the outgoing interface (*inherent in MPLS network or see col. 10, lines 31-63 wherein table in LSR4 or LSR7 is established*).

Regarding **claim 15**, in addition to features recited in base claim 9 (see rationales discussed above), Chuah further discloses wherein the packet processing logic (LSR1) is operably coupled to forward unlabeled packet to the second label switching device over the outgoing interface upon deciding to stop using the label switched path *(col. 11, lines 45-48).*

Regarding **claims 17, 18, 20 and 22**, the claims call for a computer program of claims 9, 10, 12 and 15, respectively. Thus, the same rationales applied in the rejection of claims 9, 10, 12 and 15 are applied because LSR4, LSR7 or LSR1 of Fig. 5 is a software-driven router.

Regarding **claim 24**, in accordance with Chuah reference entirety, Chuah discloses a method for establishing a label switched path to a first label switching device (LSR7) in a communication network (*FIG. 5 and col. 6, line 43 to col. 7, line 24*) without using an explicit signaling protocol (*at col. 6, lines 43-61, Chuah discloses any of the LSRs appends MPLS label to create labeled IP packet in response to a reception of packet or labeled packet from any device in the network. No explicit signaling protocol involved establishing an LSP)*, the method comprising:

receiving a labeled packet (530) including a new label (532) and an indicator (630) indicating that the labeled packet is labeled from a second label switching device (LSR4) (*col. 6, lines 54-57*); and

setting the label switched path using the new label (*Fig. 5 and col. 7, lines 15-24, Chuah discloses S bit 630 in label stack is set to indicate that it is the last label stack entry (corresponding to "packet is labeled")*).

Regarding **claim 27**, in addition to feature recited in base claim 25 (see rationales discussed above), Chuah further discloses wherein the indicator is a bit (630) in a header field of the packet, and wherein the bit is set to a predetermined value (0 or 1) to indicate that the packet is labeled (*Fig. 5 and col. 7, lines 15-24, Chuah discloses*

S bit 630 in label stack is set to indicate that it is the last label stack entry (corresponding to "packet is labeled")).

Regarding **claim 30**, in accordance with Chuah reference entirety, Chuah discloses a label switching device (*LSR7*) comprising:

an incoming interface providing an interface for communicating with a second label switching device (LSR1) (*Fig. 5; interface between LSR7 and LSR4*); and

packet processing logic (LSR7) operably coupled to received a labeled packet (530) including a new label (532) for a new label and bit indicator (630) for indicating that the labeled packet is labeled (*Fig. 5 and col. 7, lines 15-24, Chuah discloses S bit 630 in label stack is set to indicate that it is the last label stack entry (corresponding to "packet is labeled")*), from the second label switching device (LSR4) over the incoming interface without first explicitly establishing the new label switched path from the second label switching device (LSR4) to the first label switching device (LSR1) using a signaling protocol (*col. 6, lines 43-61, Chuah discloses packet is labeled without using explicit signaling* protocol) and to set up the switched path using the new label (542).

Regarding **claim 31**, in addition to features recited in base claim 30 (see rationales discussed above), Chuah further discloses wherein the packet processing logic (*LSR7 and col. 6, line 43 to col. 7, line 24*) comprises: label detection logic (LSR7) operably coupled to determined that the received packet is labeled (*col. 6, lines 53-54*); label switching logic (LSR7) responsive to the label detection logic and operably coupled to determine that the labeled packet is not associated with an existing label switched path (*col. 6, lines 54-55*); and label switched path set up logic (LSR7)

responsive to the label switching logic and operably coupled to set up the label switched path using the new label (*col. 6, lines 55-58*).

Regarding **claim 32**, in addition to features recited in base claim 31 (see rationales discussed above), Chuah further discloses wherein the labeled packet (540) includes the new label (542) and an indicator (630) indicates that the packet is labeled (*see col. 7, lines 15-24*) and wherein the label detection logic is operably coupled to determine that the received packet is labeled based upon the indicator (630) (col. 6, lines 55-58).

Regarding **claim 34**, in addition to features recited in base claim 32 (see rationales discussed above), Chuah further discloses wherein the indicator (630) is a bit (0 or 1) in a header field of the packet, and wherein the bit is set to a predetermined value (1 or 0) to indicate that the packet is labeled (*see col. 7, lines 15-24*).

Regarding **claim 36**, in addition to features recited in base claim 31 (see rationales discussed above), Chuah further discloses routing logic (ITS-1) responsive to the label switched path setup logic and operably coupled to forward the packet based upon the network layer addressing information (DIP) in the packet (*col. 6, lines 59-61*).

Regarding **claims 37-39, 41 and 43**, the claims call for a computer program of claims 30-32, 34 and 36, respectively. Thus, the same rationales applied in the rejection of claims 30-32, 34 and 36are applied because LSR7 of FIG. 5 is a software-driven router.

Regarding **claim 44**, in accordance with Chuah reference entirety, Chuah discloses an MPLS network (Fig. 5) comprising LSRs (LSR4, LSR7 and LSR1) use a

packet-driven mechanism (LSR4, LSR7 or LSR1) to established a label switched path without first explicitly establishing the label switched path using a signaling protocol (*col. 6, line 26 to col. 7, line 24*), and wherein the first label switching device (LSR4, LSR7 or LSR1) is operably coupled to allocate a new label for the label switched path and to forward a labeled packet including the new label and an indicator (630) for indicating the labeled packet is labeled (col. 7, lines 14-24), to the second label switching device (LSR7 or LSR1) over the communication network upon deciding to establish a new label switched path to the second label switching device (*see Fig. 5 and col. 6, lines 26-61*).

Regarding **claims 45-46**, see Fig. 5 and col. 6, lines 26-61 and the rationales discussed above.

Regarding **claims 47 and 49**, in accordance with Chuah reference entirety, Chuah discloses a method for label allocation by an upstream device (LSR7 or LSR1) comprising the step of: generating a communication message (Fig. 5; 530 or 540) including a new muti-protocol label switching label (532 or 542) for a label switched path to be established (col. 6, lines 26-61) and a label indicator (Fig. 6; 630) indicating that the protocol message is labeled (col. 7, lines 14-24), wherein the label indicator (630) comprises a field (S) having a predetermined value (*0 or 1*) for indicating that the protocol message is labeled (*col. 7, lines 14-24*).

Allowable Subject Matter

3. Claims 3, 8, 11, 14, 16, 19, 21, 23, 26, 28, 29, 33, 35, 40, 42 and 48 are objected to

as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record, considered individually or in combination, fails to fairly show or suggest the claim invention of base claim 1, 9, 17, 24, 30, 37 and 47 and further limitation with a novel and unobvious limitation of specifically identifying the claimed "indicator" is "an ethertype field of the packet" and modifying the forwarding table in a manner as recited in the dependent claims 3, 8, 11, 14, 16, 19, 21, 23, 26, 28, 29, 33, 35, 40, 42 and 48, accordingly.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Davie et al (USP 6,430,155).

Boustead et al, Label Switching and IP Version 6, IEEE, pages 561-565, 1998.

Nagami et al, Flow Aggregated, Traffic Driven Label Mapping in Label-Switching Networks, IEEE, pages 1170-1177, 1999.

Chen et al, Reliable Services in MPLS, IEEE, pages 58-62, 1999.

Armitage et al, MPLS: The Magic Behind the Myths, IEEE, pages 124-131, 2000.

5. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Frank Duong whose telephone number is 571-272-3164. The examiner can normally be reached on 7:00AM-3:30PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FRANK DUONG
PRIMARY EXAMINER

June 30, 2005